

OrfZ 1 MEWEEIYKEKLVTAEKAVSKIENHSRVVFAHAVGEPVDLVNALVKNKDN YIGLEIVHMVA

M\*W IY \*\*

4HBCT MDWKKIYEDRT

OrfZ 61 MGKGVYTKEGMQRHFERNALFVGGSTRDAVNSGRAVYTPCFYEVPSLFKEKRLPVDVAL

OrfZ 121 IQVSEPDKYGYCSFGVSNDYTKPAAESAKLVIAEVNKNMPRTLGDSEFIHVSDIDYIVEAS

OrfZ 181 HPLLELQPPKLG DVEKAIGENCASLIEDGATLQLGIGAI PD AVL LFLKNKKNLGIHSEMI

OrfZ 241 SDGVMELVKAGVINNNKKTLHPGKI VVTF LMGTKKLYDFVNNNPMVETYSVDYVNNPLVI

OrfZ 301 MKNDNMVSINSCVQVDLMGQVCSESIGLKQISGVGGQVDFIRGANLSKGGKAI IAI PSTA

AIIA PS A

4HBCT AIIAMPSVA

OrfZ 361 GKGVSRITPLLDTGAAVTTSRNEVDYVVTEYGV AHLKGKTLRNRARALINIAHPKFRS

N\*\*DYVVTEYG A K ALINIAHP F\*\*

4HBCT K NDADYVVTEYGI AEMK ALINIAHPDFKDE

OrfZ 421 LMNEFKKRF

L

4HBCT LK

FIG. 1A

FIG. 1B

The sequence of the orfZ gene from *C. kluyveri* is:

ATGGAGTGGGAAGAGATATATAAAGAGAAACTGGTAACTGCAGAAAGAGCTGT  
TTCAAAAATAGAAAACCATAGCAGGGTAGTTTTCACATGCAGTAGGAGAACC  
CGTAGATTAGTAAATGCACTAGTTAAAAATAAGGATAATTATATAGGACTAGA  
AATAGTTCACATGGTAGCTATGGGCAAGGTGTATATACAAAAGAGGGTATGC  
AAAGACATTTTAGACATAATGCTTTGTTGTAGCGGATCTACTAGAGATGCAG  
TAAATTGAGGAAGAGCAGTTTATACACCTTGTTTCTATGAAGTGCCCAAGTTT  
GTTTAAAGAAAACGTTTGCCCTGTAGATGTAGCACTTATTCAGGTAAGTGAGCC  
AGATAAAATATGGCTACTGCAGTTTGGAGTTTCCCAATGACTATACCAAGCCAGC  
AGCAGAAAGTGCTAAGCTTGTAATTGCAGAAAGTGAATAAAAACATGCCAAGAA  
CTCTTGGAGATTCTTTTATACATGTATCAGATATTGATTATATAGTGAAGCTTC  
ACACCCATTGTTAGAAATTGCAGCCCTCCTAAATTGGGAGATGTAGAAAAGCCAT  
AGGAGAAAACGTGCACTCTTAAATTGAAGATGGAGCTACTCTTCAGCTTGGAAT  
AGGTGCTATACCAGATGCGGTACTTTTATTCTTAAAGAACAAAAGAAATTAGG  
AATACATTCTGAGATGATATCAGATGGTGTGATGGAACCTGGTGAAGGCAGGGG  
TTATCAATAACAAGAAAAGACCCCTCCATCCAGGCAAAAATAGTTGTAACATTTT

FIG. 1C

AATGGGAACAAAAAATTATATGATTTTGTAAACAATAATCCAATGGTAGAAAC  
TTATTCTGTAGATTATGTAAATAATCCACTGGTAATTATGAATAATGACAAATATG  
GTTTCAATAAATTCTTGTGTTCAAGTAGACTTAATGGGACAAGTATGTTCTGAAA  
GTATAGGATTGAACACAGATAAGTGGAGTGGAGGCCAGGTAGATTTTATTAGA  
GGAGCTAATCTATCAAGGGTGGAAAGGCTATTATAGCTATACCTTCCACAGCT  
GGAAAGGAAAGTTTCAAGAAATAACTCCACTTCTAGATACTGGTGCTGCAGTT  
ACAACTTCTAGAAATGAAGTAGATTATGTAGTTACTGAATATGGTGTGCTCATC  
TTAAGGGCAAACTTTAAGAAATAGGGCAAGAGCTCTAATAAATATCGCTCATC  
CAAAATTCAGAGAAATCATTAATGAATGAATTTAAAAAGAGATTTTAG

FIG. 1D

The sequence of the orfZ gene product is:

MEWEEIYKEKLVTAEKAVSKIENHSRVVFAHAVGEPVDLVNALVKNKDNVIGLEI  
VHMVAMGKGVYTKEGMQRHFHNALFVGSTRDVNSGRAVYTPCFEYEVPSL  
FKEKRLPVDVALIQVSEPDKYGYCSFGVSNDYTKPAESAFLVIAEVNKNMPRTL  
GDSEFIHVSDIDYIVEASHPLLELQPPKLG DVEKAIGENCASLIEDGATLQLGAI PD  
AVLLFLKNKKNLGIHSEMI SDGVMELVKAGVINNKKKTLHPGKI VVTFLMGTKK  
LYDFVNNNPMVETYSVDYVNNPLVIMKNDNMVVSINSCVQVDLMGQVCSESIGLK  
QISGVGGQVDFIRGANLSKGGKAILAIPSTAGKGKVSRTPLLDTGAAVTTSRNEVD  
YVVTEYGVVAHLKGKTLRNRARALINIAHPKFRESLMNEFKKRF\*

Neither the sequence of the hbct gene from C.  
aminobutyricum nor the complete amino acid sequence of the  
corresponding enzyme is known.

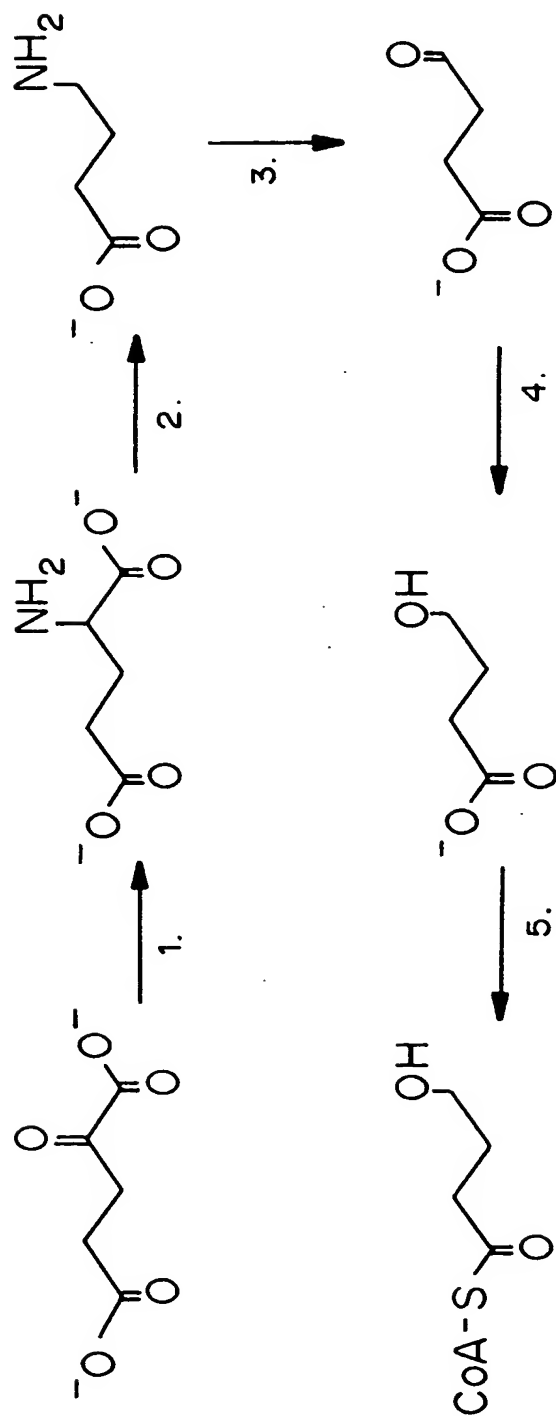
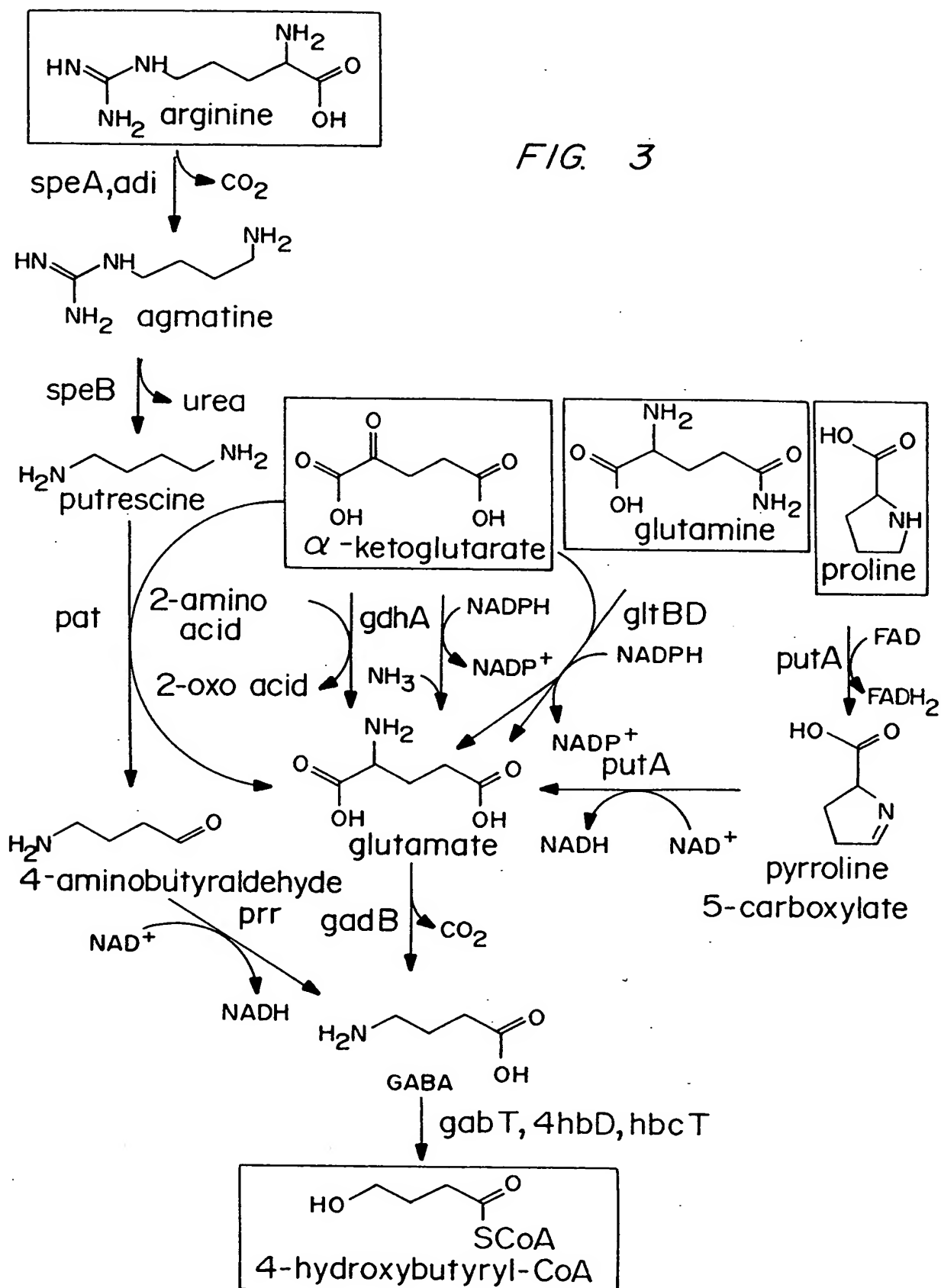


FIG. 2



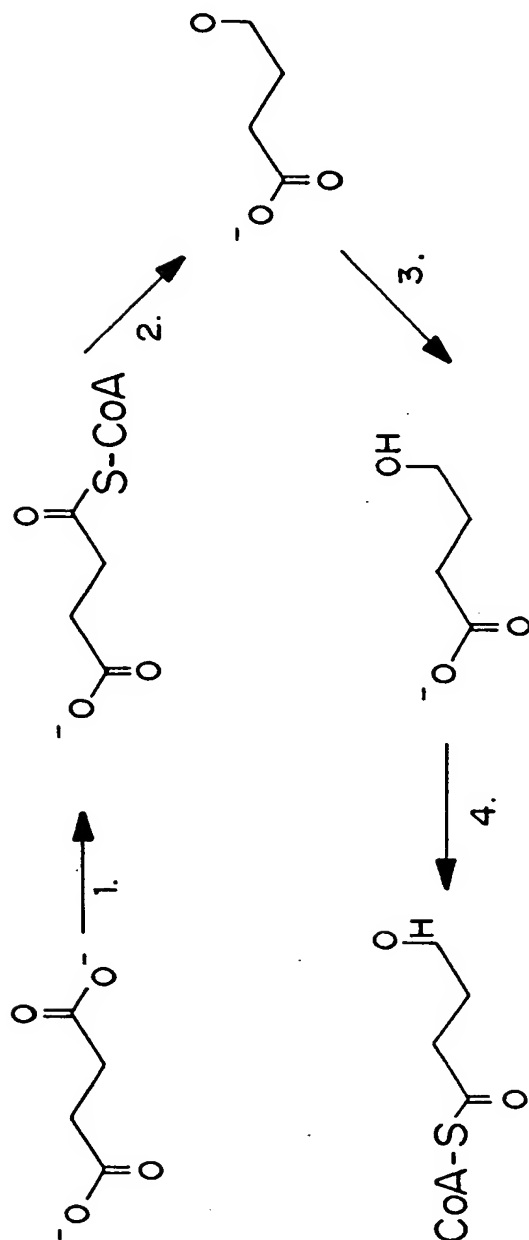


FIG. 4

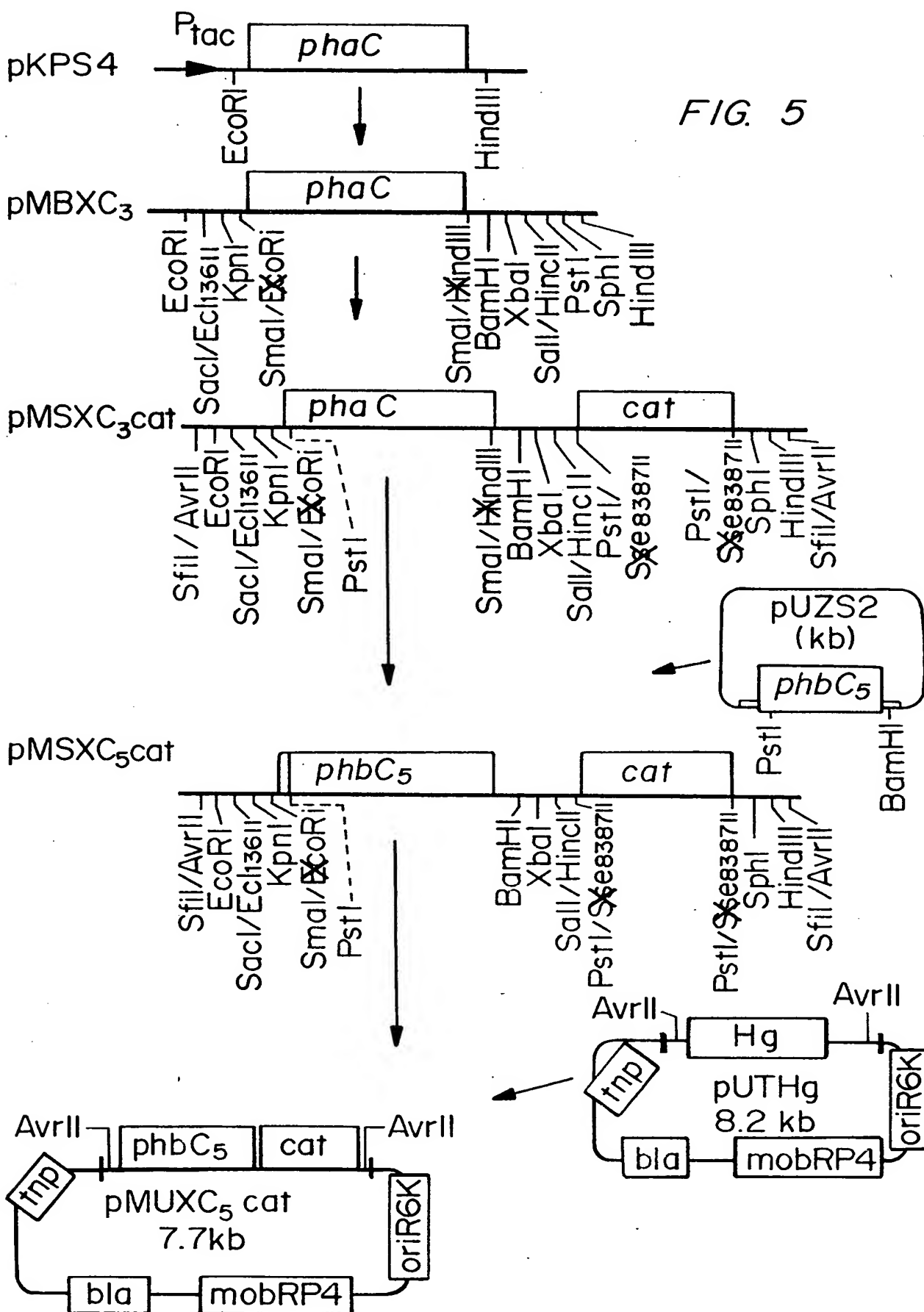
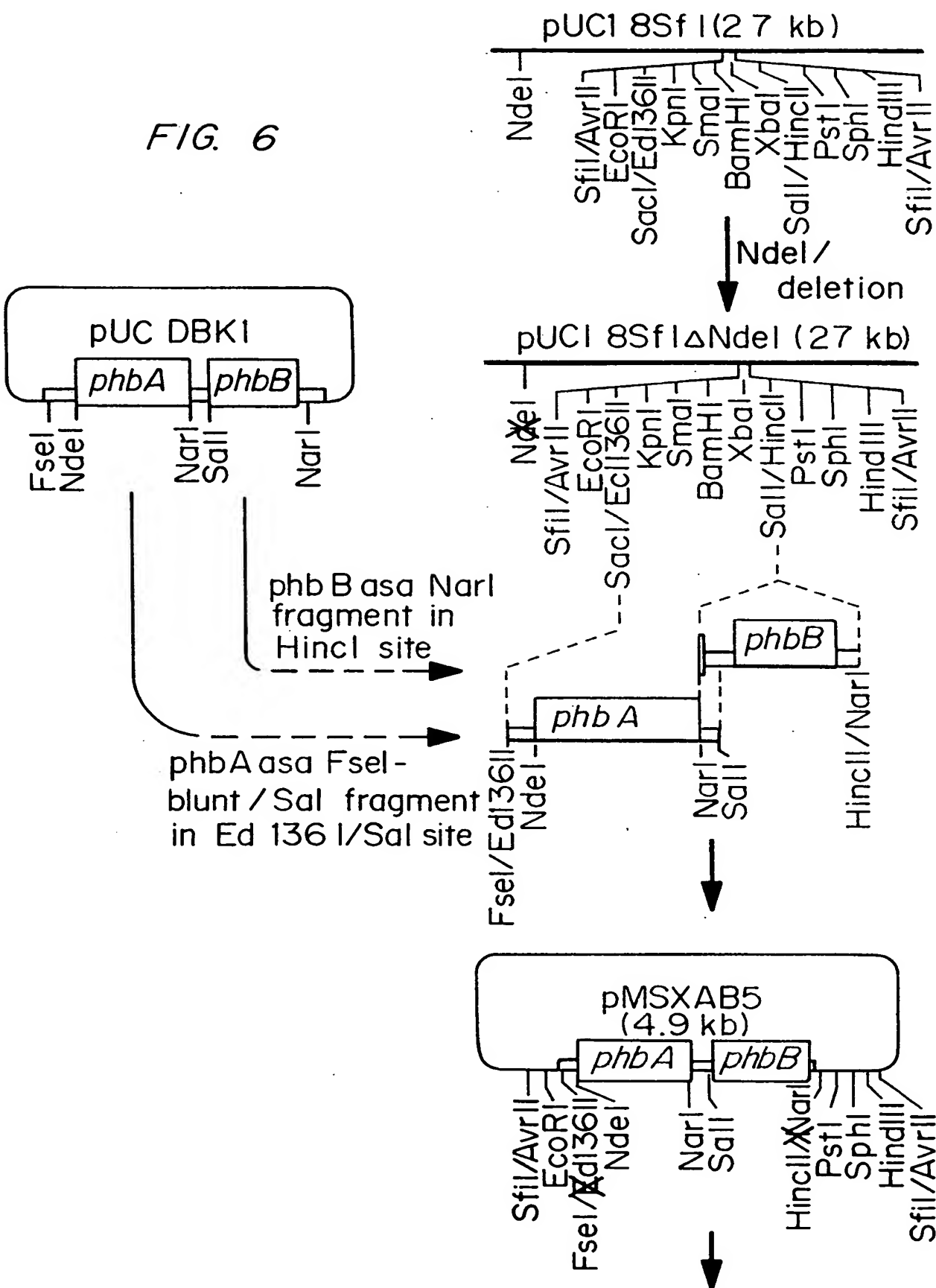




FIG. 6



CONTINUED ON FIG. 6A



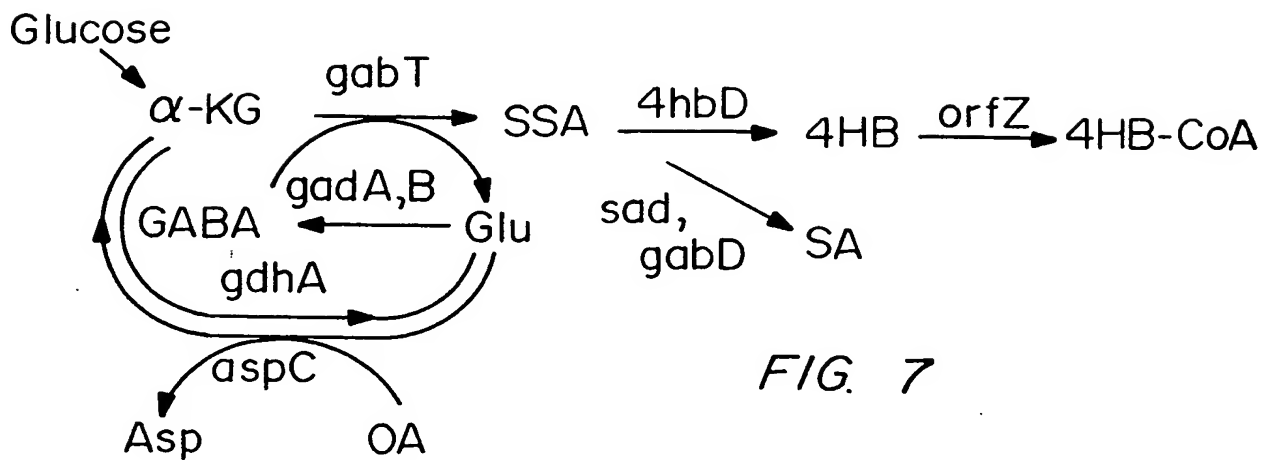
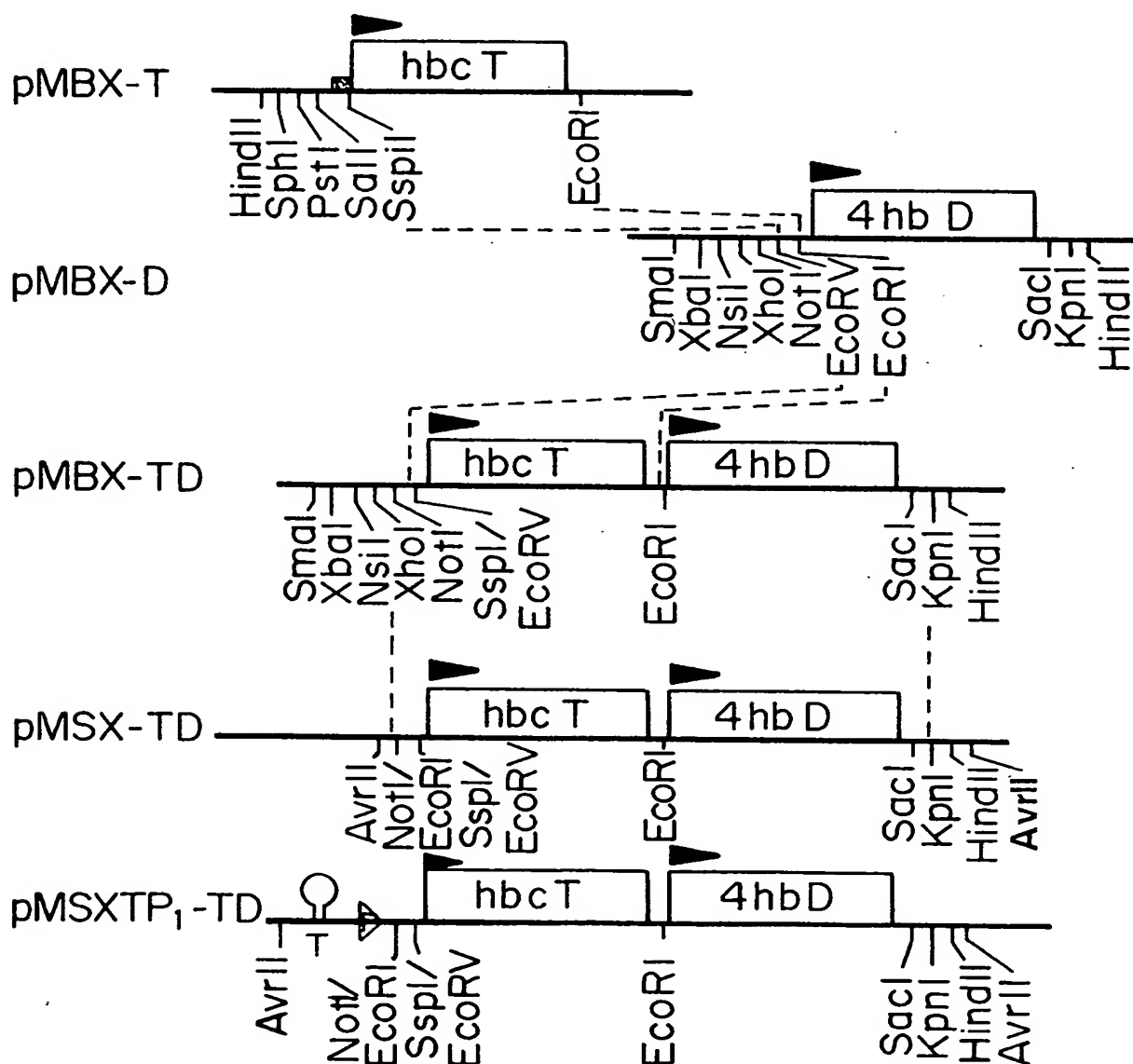


FIG. 7

FIG. 8



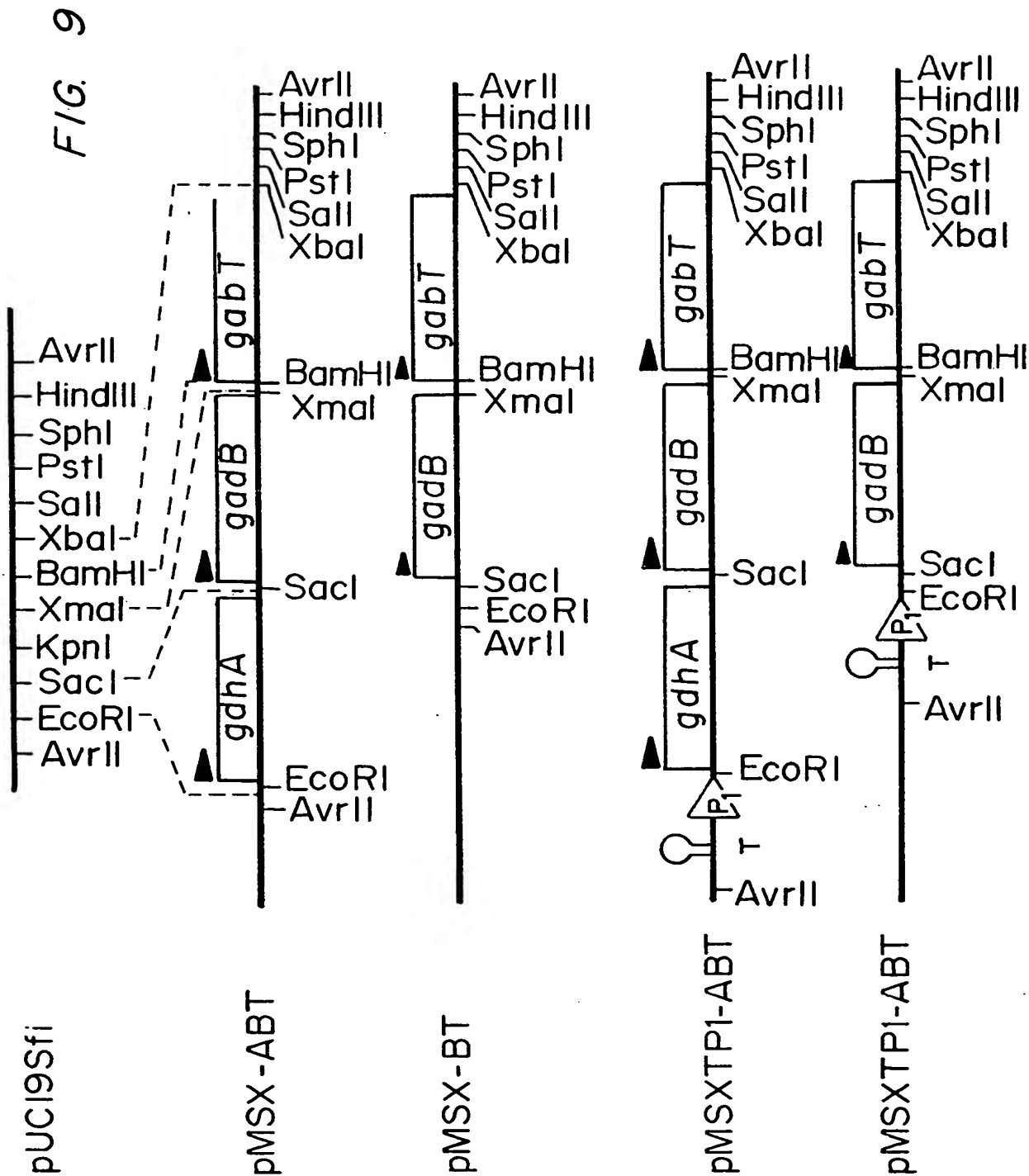


FIG. 10

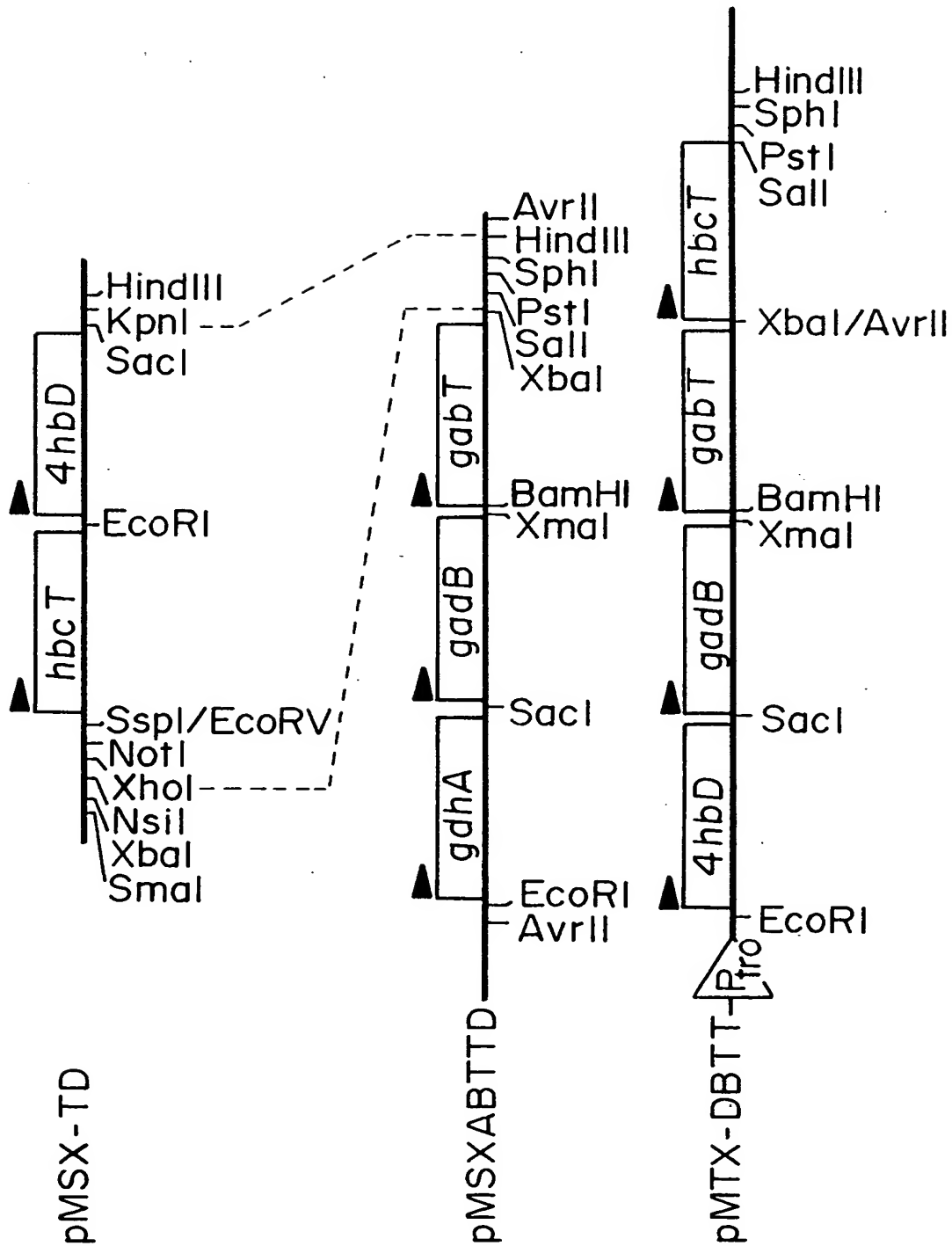


FIG. 11

